(Currently Amended) The tube (20) having an inner wall (140) where at least

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Amendment of the Specification (First Amendment p11)

The Specification is amended at page 10/line 21 to page 11/line 21 as follows:

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4 one depression or groove (150) is formed in the inner wall (140) which receives at least 5 one vane (90), of the at least one inner core (70) received into the tube (20), at a vane tip 6 (98) and, as depicted, at least two vane tips (98) are received respectively into at least two 7 grooves (150) formed in the inner wall (140).. The groove (150) comprising vane (90) 8 restraining means securing the at least one inner core (70) in a fixed position within said 9 tube (20). It will be appreciated by those of ordinary skill in the arts that the groove (150) 10 may be a structure extending from the inner wall (140) forming a groove (150) which will 11 receive at least one vane (90). Alternatively it is understood that the groove (150) may be 12 a depression formed into the inner wall (140) capable of receiving the at least one vane 13 (90). As will be appreciated by one of ordinary skill in these arts, vane (90) restraining 14 means may be by a friction fit between the vane tip (98) when received into a groove 15 (150) or by application of an adhesive or a mechanical fixing means between the vanc tip 16 17 (98) and the groove (150). In the preferred embodiment at least two depressions or grooves (150) are formed in the inner wall (140) with each of said grooves (150) 18 receiving at least one vane (90). The at lease one vane having a vane surface (92). The at 19 least one vane (90) extending from the central core element (25) along the length of said 20 central core element (25). The surface (92) covered with a biofilm (97). In the preferred 21 embodiment at least eight vanes (90) are spaced equidistant from the adjoining vane (90) 22

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and extending from the central core element (25).

Application No. 09/04/1.685 on 2004/bixFloyd E/Iyey in response

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Amendment of the Specification (Second Amendment p12)

The Specification is amended commencing at page 11/line 22 to page 12/line 17 as follows:

one fin (200) extending outwardly therefrom. As depicted the tube (20) has at least four

fins (200) extending from said outer wall (190). However, one of ordinary skill in the

arts will appreciate that fins of 1...n may be employed in accordance with the space

available and surface area desired. The fin (200) is generally elongated having a fin

surface (210) and, in the preferred embodiment, extends outwardly from the tube outer

wall (190). Where a plurality of tubes (20) are utilized the plurality of tubes (20) contact

adjacent tubes (20) at the respective tube outer walls (190) at least one contact point (195)

fasteners and other methods or devices as are appreciated by those in the affixing arts, are

tubes (20) within the media matrix (1). Tube at least one contact points (195) are, in the

bottom (30) parallel with the tube axis (37). In an alternative embodiment, tubes (20) in a

media matrix (1) may be alternatively or additionally fixed in position by affixing means

where, in the preferred embodiment, affixing means, including adhesives, mechanical

utilized to fix adjacent tubes together and hence to fix the position of the plurality of

preferred embodiment, flattened surfaces extending from the tube top (25) to the tube

(Currently amended) The tube (20) having an outer wall (190) having at least

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employed at an intersection of fins (200) of adjoining tubes (20).

Amendment of the Specification —(Third Amendment p16)

The Specification is amended from page 16/line 1 through page 17/line 1 as follows:

The tube (20) having an inner wall (140) where at least one depression or groove

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4 (150) is formed in the inner wall (140) which receives at least one vane (90), of the at 5 least one inner core (70) received into the tube (20), at a vane tip (98) and, as depicted, at 6 least two vane tips (98) are received respectively into at least two grooves (150) formed-7 in the inner wall (140).. The groove (150) comprising vane (90) restraining means 8 securing the at least one inner core (70) in a fixed position within said tube (20). It will 9 be appreciated by those of ordinary skill in the arts that the groove (150) may be a 10 structure extending from the inner wall (140) forming a groove (150) which will receive 11 at least one vane (90). Alternatively it is understood that the groove (150) may be a 12 depression formed into the inner wall (140) capable of receiving the at least one vane 13 (90). As will be appreciated by one of ordinary skill in these arts, vane (90) restraining 14 means may be by a friction fit between the vane tip (98) when received into a groove 15 (150) or by application of an adhesive or a mechanical fixing means between the vane tip 16 (98) and the groove (150). In the preferred embodiment at least two depressions or 17 grooves (150) are formed in the inner wall (140) with each of said grooves (150) 18 19 receiving at least one vane (90). The at lease one vane having a vane surface (92). The at least one vane (90) extending from the central core element (25) along the length of said 20

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and extending from the central core element (25).

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central core element (25). The surface (92) covered with a biofilm (97). In the preferred

embodiment at least eight vanes (90) are spaced equidistant from the adjoining vane (90)

The tube (20) having an outer wall (190) having at least one fin (200) extending

embodiment, flattened surfaces extending from the tube top (25) to the tube bottom (30)

parallel with the tube axis (37). In an alternative embodiment, tubes (20) in a media

matrix (1) may be alternatively or additionally fixed in position by affixing means

employed at an intersection of fins (200) of adjoining tubes (20).

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Amendment of the Specification - (Fourth amendment p 17)

The Specification is amended at page 17/line 2-page 17/line 21 as follows:

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5 outwardly therefrom. As depicted the tube (20) has at least four fins (200) extending from said outer wall (190). However, one of ordinary skill in the arts will appreciate that 6 fins of 1...n may be employed in accordance with the space available and surface area 7 desired. The fin (200) is generally elongated having a fin surface (210) and, in the 8 preferred embodiment, extends outwardly from the tube outer wall (190). Where a 9 10 plurality of tubes (20) are utilized the plurality of tubes (20) contact adjacent tubes (20) at the respective tube outer walls (190) at at least one contact point (195) where, in the 11 preferred embodiment, affixing means, including adhesives, mechanical fasteners and 12 other methods or devices as are appreciated by those in the affixing arts, are utilized to fix 13 adjacent tubes together and hence to fix the position of the plurality of tubes (20) within 14 the media matrix (1). Tube at least one contact points (195) are, in the preferred 15

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